App. No.: 10/758,364

Amendment and Reply to First Office Action

REMARKS AND ARGUMENTS

This Amendments and Response to Office Action is filed in response to the Office Action of April

Docket No.: 87159200-242006

(PATENT)

2nd, 2007. Applicants submit that all the claims, as amended herein, are distinguishable from the prior arts

of record for at least the following reasons:

1. The Office Action states that claims 1-11 are rejected under 35 U.S.C. §102(b) as being anticipated

by U.S. Patent No. 6,007,209 ("Pelka"). Applicants respectfully submit that the claims as amended

herein overcome the rejection.

The invention described by amended claim 1 is directed to an illumination device for display

systems comprising (i) a plurality of light sources distributed on a plane with a light distribution surface

area 'S', (ii) at least one light diffusing plate optically coupled to the plurality of light sources and having

a light incident area for receiving light from the light sources, wherein the light distribution surface area is

at least greater than the light incidence area, and (iii) a device case enclosing the light sources.

Specifically, amended claims 1 recites, inter alia, that the light distribution surface area 'S' is at least

greater than the light incidence area such that more uniform illumination, including better peripheral

lighting, can be achieved.

Pelka, however, does not disclose or suggest that a light distribution area being larger than the light

incidence area. In the Office Action, it appears that the Examiner has considered the entire bottom

surface 15 in Figure 3 of Pelka as the "light distribution surface area 'S" in the current application.

Applicants respectfully disagree.

As shown in Figure 2A of the current application, the phrase "light distribution surface area 'S" as

used in the current application is to designate the area that is occupied by the plurality of light sources

(e.g. the LEDs) distributed thereon, pitches 'G' between adjacent rows/columns of the LEDs, as well as

the immediate areas surrounding each end row/column of LEDs. As shown by the dotted lines in Figure

2A of the current application, area 'S' is NOT the same as the entire bottom surface of the illumination

device.

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Accordingly, in Pelka, area 'S' should be determined by considering the area where the light sources are actually mounted, not by default the entire bottom surface area 15 of the illumination device.

Col. 4, lines 52 to 57 of Pelka state that "[LEDs 13] are mounted on the bottom wall 15 of the cavity such that the LEDs 13 are directly WITHIN the viewing aperture portion (as used herein, the term "viewing aperture portion" refers to the portion of the cavity that lies directly beneath the aperture 18)." (Emphasis added.) Further, Col. 5, lines 4-5 of Pelka state that "LEDs 13 adjacent to the perimeter of the aperture 18 are spaced 2½" from the baffle 72", i.e. the edge of the aperture 18. This arrangement is to ensure that LEDs 13 "lie WITHIN the viewing aperture portion illuminating the interior portion of the aperture 18. (Col. 5, line 66 to Col. 6, line 4 of Pelka.) (Emphasis added.) Stated in other words, the "light distribution surface area 'S'" in Pelka is about 2" smaller than the aperture 18 from all four sides surrounding the aperture. Accordingly, in Pelka, the area 'S' is SMALLER than, instead of "at least greater than", the light incidence area, as claimed in the amended claim 1 of the current application.

Applicants note that, in Pelka, a second set of LEDs (i.e. LEDs 12) are provided in the peripheral channels of the aperture 18. However, the area occupied by LEDs 12 cannot be considered as part of the "light distribution surface area 'S'" as in the current invention, because LEDs 12 are positioned on a surface that is 180 degrees opposite to the surface where LEDs 13 are positioned. (See Figures 3 and 5 of Pelka.)

For at least the foregoing reasons, Applicants respectfully submit that claim 1 is patently distinguishable from the reference of Pelka. Also, at least by virtue of their respective dependency on claim 1, claim 2-11 should also be patentable over Pelka.

The Office Action further states that claims 12, 13 and 15-19 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,036,946 ("Mosier"). Applicants respectfully submit that the claims as amended herein overcome the rejection.

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Amended claim 12 discloses an illumination device for a display system comprising (i) a light guide plate having at least one side edge surface and a light-emerging surface, wherein the side edge surface is substantially orthogonal to the light-emerging surface; (ii) a plurality of light sources optically coupled to the light guide plate at the side edge surface, wherein the plurality of light sources is placed along a length 'M' that is at least greater than a length of the side edge surface; and (iii) a device case enclosing the plurality of light sources, wherein the device case comprises a plurality of side walls having an inner surface configured to reflect light from the light sources.

First, Mosier fails to suggest that the length of the area where the light sources are distributed is at least greater than the length of the side edge surface. Next, Mosier does not disclose a device case that encloses the light sources and has inner surfaces that reflect light. Mosier only discusses that a backlight system "supported on a mount" (see Col. 4, line 32-35). A "mount" is not an equivalent of a "device case" since the mount described in Mosier does not (i) enclose the light sources, (ii) have side walls, and (iii) have inner surfaces that reflect lights.

For at least the foregoing reasons, Applicants respectfully submit that claim 12 is patently distinguishable from the reference of Mosier. Also, at least by virtue of their respective dependency on claim 12, claim 13 and 15-19 should also be patentable over Mosier.

The Office Action suggests that claims 12-19, 21 and 22 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,315,440 ("Satoh"). Applicants respectfully submit that the claims as amended herein overcome the rejection.

Satoh neither describes nor suggests that the length of the area where the light sources are distributed is at least greater than the length of the side edge surface. Figures 3 and 5 in Satoh also do not illustrate such feature. Satoh simply discusses that "the light-emitting elements 23 are mounted on the printed board 9 at an interval pitch L along the side of the liquid crystal display 19 opposite to the side where the flexible substrate 21 is connected to the transparent electrodes so that the first to third lightemitting elements are arranged in the order toward the right side of the apparatus body." See Col. 5, line 10

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14-20. Thus, Satoh describes how the light diodes are arranged but is silent as to the length of the area

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For at least the foregoing reasons, Applicants respectfully submit that claim 12 is patently distinguishable from the reference of Satoh. Also, at least by virtue of their respective dependency on

claim 12, claim 13-19, 21 and 22 should also be patentable over Satoh.

4. The Office Action suggests that Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable

over Satoh as applied to claim 12, and further in view of Pub. No. US2004/0070966 ("Ahn").

Applicants respectfully submit that the claims as amended herein overcome the rejection.

As discussed in the previous sections, the amendment herein overcomes the rejection by Satoh as

applied to claim 12. Since claim 20 depends on claim 12, it should also be patentable over Satoh.

Ahn describes a housing which surrounds the light sources. Specifically, in paragraph [0053], Ahn

discloses that "The housing 64 may be arranged on the substrate 66 for surrounding light-emitting

portions of the respective light-emitting diodes, and may include aluminum material(s)." However, Ahn,

similar to the other prior arts sited in this Office Action, is silent as to the length of the area where the light

sources are distributed. For the foregoing reason, withdrawal of the rejection under 35 U.S.C. §103(a) is

respectfully requested.

CONCLUSION

Applicants believe that given the above amendments and remarks, all the pending claims are now in condition for allowance and such is respectfully requested. No fees are believed to be necessitated by this response. The Examiner is requested to charge any additional fees that may due with this response to Deposit Account No. 50-3420, under Order No. 87159200-242006 (TVV). If further discussion of this amendment is required, the Examiner is invited to contact the undersigned at the telephone number

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indicated below.

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Respectfully submitted,

BAKER & MCKENZIE LLP

By /M. Michael Dai/ M. Michael Dai

Registration No.: 47,512 Pennzoil Place, South Tower

711 Louisiana, Suite 3400

Houston, Texas 77002-2746 USA

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(PATENT)

Tel: +1 713 427 5056 Fax: +1 713 427 5099